

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) In a computer network environment comprising a wired computer network implemented by at least one network device operative to switch or route data units between devices connected thereto, the data units including a source address and a destination address, wherein the at least one network device comprises at least two ports to which other devices connect, and wherein the at least one network device is operative to store the source addresses of the data units encountered at the ports of the at least one network device, a method for containing rogue access points, comprising
  - detecting a rogue access point, the rogue access point connected to the wired computer network and bridging wireless traffic between at least one rogue client and the wired computer network;
  - determining the address of at least one rogue client associated with the rogue access point; and
  - identifying the port to which the rogue access point is connected by querying, using the addresses of the at least one rogue client in the determining step, the at least one network device for the port at which data units sourced from the at least one rogue client were encountered.
2. (original) The method of claim 1 further comprising
  - disabling the identified port.

3. (original) The method of claim 1 further comprising  
    locating the edge port, if more than one network device responds in the polling step.
4. (original) The method of claim 1 wherein the at least one network device is an Ethernet switch.
5. (original) In a wireless network environment comprising at least one authorized access point, a method for containing rogue access points, the rogue access points including a virtual carrier-sense mechanism operative to adjust a counter in response to wireless frames transmitted from wireless stations, wherein the data frames include a duration value, the counter controlling the transmission of frames by the rogue access point, comprising  
    detecting a rogue access point,  
    identifying at least one authorized access point that neighbors the rogue access point;  
    selecting at least one authorized access point in the identifying step;  
    configuring the at least one selected access point to periodically transmit wireless frames, the data frames including a predetermined duration value, and wherein the interval at which the data frames are periodically transmitted is less than the duration value.
6. (original) The method of claim 5 wherein the wireless frames are transmitted on all available frequency channels.

7. (original) The method of claim 5 further comprising  
identifying the channel on which the rogue access point is transmitting; and  
wherein the wireless frames are transmitted on the identified channel.
8. (original) The method of claim 5 further comprising  
identifying the channel on which the rogue access point is transmitting; and  
wherein the wireless frames are transmitted on a range of channels centered on the  
identified channel.
9. (currently amended) In a wireless network environment implementing a protocol  
according to which wireless stations terminate connections with access points upon receipt  
of de-authentication and/or disassociation frames, a method for containing rogue access  
points, comprising  
detecting a rogue access point, the rogue access point identified by a wireless  
network address;  
selecting at least one authorized access point;  
emulating the rogue access point and transmitting connection-terminating frames at  
a repetition interval to terminate ~~terminating~~ the connections between the rogue access  
point and the wireless client devices associated with the rogue access point to prevent  
transmission of frames between the rogue access point and the wireless client devices  
associated with the rogue access point.
10. (currently amended) The method of claim 9 wherein the emulating step comprises  
periodically broadcasting, at ~~[[a]]~~ the repetition interval, de-authentication frames,  
wherein the source address of the de-authentication frames is the wireless network

address of the detected rogue access point.

11. (original) The method of claim 10 wherein the repetition interval is heuristically determined to prevent wireless clients from transmitting data to or receiving data from the rogue access point.

12. (original) The method of claim 10 further comprising reducing the repetition interval upon detection of data frames transmitted between the rogue access point and a wireless client device.

13. (original) The method of claim 10 further comprising  
periodically broadcasting, at a second repetition interval, disassociation frames, wherein the source address of the disassociation frames is the wireless network address of the detected rogue access point.

14. (currently amended) The method of claim 9 wherein the emulating step comprises  
periodically broadcasting, at [[a]] the repetition interval, disassociation frames, wherein the source address of the disassociation frames is the wireless network address of the detected rogue access point.

15. (currently amended) ~~The method of claim 9 wherein the emulating step comprises~~ In a wireless network environment implementing a protocol according to which wireless stations terminate connections with access points upon receipt of de-authentication and/or disassociation frames, a method for containing rogue access points, comprising  
detecting a rogue access point, the rogue access point identified by a wireless

network address;

selecting at least one authorized access point;

emulating the rogue access point and periodically broadcasting, at repetition interval, beacon frames, wherein the beacon frames announce a contention-free period, and wherein the contention-free period is greater than the repetition interval.

16. (currently amended) A rogue containment device, comprising

a network interface operably connected to a computer network to communicate with at least one wireless network access device,

a rogue containment module operative to

receive data characterizing a rogue access point;

configure one or more of the at least one wireless network access device to emulate the rogue access point and transmit connection-terminating frames at a repetition interval ~~to transmit rogue-containing, wireless frames operative to contain the rogue access point.~~

17. (original) The rogue containment device of claim 16 wherein the at least one wireless network access device is an access point.

18. (original) The rogue containment device of claim 16 wherein the at least one wireless network access device is an access element in a hierarchical wireless network system.

19. (canceled)

20. (currently amended) The rogue containment device of claim ~~[[19]]~~ 16 wherein the

connection terminating frames are de-authentication frames.

21. (currently amended) The rogue containment device of claim ~~[[19]]~~ 16 wherein the connection terminating frames are disassociation frames.

22. (currently amended) The rogue containment device of claim ~~[[19]]~~ 16 wherein the connection terminating frames are transmitted at a fixed repetition interval.

23. (currently amended) The rogue containment device of claim ~~[[19]]~~ 16 ~~wherein the connection terminating frames are transmitted as a repetition interval, and~~ wherein the repetition interval is adjusted in response to detection of wireless traffic transmitted between the rogue access point and a wireless client.

24. (currently amended) A wireless network system enabling a directed association mechanism, comprising

a plurality of access elements for wireless communication with at least one remote client element and for communication with a central control element;

a central control element for supervising at least one of said access elements, wherein the central control element is operative to manage and control the wireless connections between the access elements and corresponding remote client elements; and

wherein the access elements are each operative to:

establish and maintain, in an access point mode, wireless connections with remote client elements;

switch to a scanning mode for a scanning period at a scanning interval to detect wireless traffic,

record scan data characterizing the detected wireless traffic, and  
transmit the scan data to the central control element;  
wherein the central control element is operative to  
process the scan data against information relating to known access  
elements to identify rogue access points,  
to contain the detected rogue access point(s); and  
wherein the central control element is operative to  
establish a tunnel with access elements for transmission of wireless  
traffic associated with corresponding remote client elements, and  
bridge network traffic between a computer network and a remote  
client element through a tunnel with a corresponding access element.

25. (canceled)

26. (currently amended) The system of claim ~~[[25]]~~ 24 wherein the computer network comprises at least one network device operative to switch or route data units between devices connected thereto, the data units including a source address and a destination address, wherein the at least one network device comprises at least two ports to which other devices connect, and wherein the at least one network device is operative to store the source addresses of the data units encountered at the ports of the at least one network device, and

wherein the central control element is operative to  
determine the address of at least one rogue client associated with the rogue  
access point; and  
identify the port to which the rogue access point is connected by querying,

using the addresses of the at least one rogue client, the at least one network device for the port at which data units sourced from the at least one rogue client were encountered.

27. (original) The system of claim 26 wherein the central control element is operative to report the identified port to a network administrator.

28. (original) The system of claim 26 wherein the central control element is operative to disable the identified port.

29. (currently amended) The system of claim ~~[[25]]~~ 24 wherein the central control element is operative to configure one or more access elements to contain the detected rogue access point(s).

30. (original) The system of claim 29 wherein the central control element is operative to configure one or more of the access elements to emulate the rogue access point and transmit connection-terminating frames.

31. (original) The system of claim 30 wherein the connection terminating frames are de-authentication frames.

32. (original) The system of claim 30 wherein the connection terminating frames are disassociation frames.

33. (original) The system of claim 30 wherein the connection terminating frames are transmitted at a fixed repetition interval.



34. (original) The system of claim 30 wherein the connection-terminating frames are transmitted as a repetition interval, and wherein the repetition interval is adjusted in response to detection of wireless traffic transmitted between the rogue access point and a wireless client.